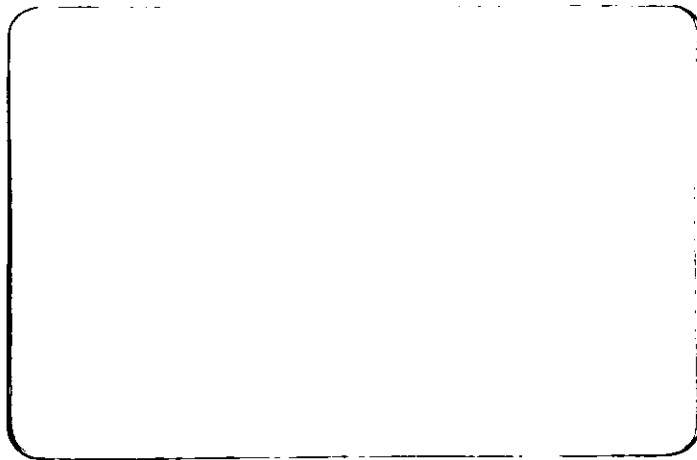


*THE ARKLETON TRUST*



**Highlands and Islands  
Development Board**

THE ARKLETON TRUST  
and  
THE HIGHLANDS AND ISLANDS DEVELOPMENT BOARD

The Arkleton Lecture 1978

THE WORK OF THE HIGHLANDS AND  
ISLANDS DEVELOPMENT BOARD  
WITH PARTICULAR REFERENCE  
TO THE ROLE OF EDUCATION  
AND TRAINING

by

Professor Sir Kenneth Alexander

Price £1.50  
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## INTRODUCTION

The Arkleton Lecture was given on 6 June 1978 by Professor Sir Kenneth Alexander, Chairman of the Highlands and Islands Development Board.

The occasion was a seminar of the Arkleton Trust at Arkleton, Langholm, Dumfriesshire on 'Educating for the Year 2000 - Agricultural Education and Training in the European Community'. The purpose of the seminar was to consider the requirements of agricultural education and training in relation to the changing structure of European agriculture. The participants in the seminar came from a number of national and international agencies working in the educational and policy fields.

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"But the truth is that the object of association is to live well - not merely to live".

Aristotle: *Politics*

THE WORK OF THE HIGHLANDS AND ISLANDS DEVELOPMENT BOARD  
WITH PARTICULAR REFERENCE TO THE ROLE OF EDUCATION AND  
TRAINING

As I speak, you will doubtless be drawing parallels in your own minds with the regions and countries of which you have experience. May I then start by enumerating some of the ways in which the Scottish Highlands and Islands share problems with many other European peripheral areas and the hinterlands of less developed countries (LDCs), and also mention the features of this region which are markedly different from those typical of LDCs.

First, the similarities:

- 1) Traditionally we have a problem of out-migration, with what was regarded as 'successful' education for generations being the springboard which enabled children to leave the region and find work and a new life further south or abroad.
- 2) Very much tied to this out-migration has been the move from rural to urban areas in order to find work. Our history in this context has been markedly affected by the clearances of earlier centuries, which involved large populations moving from their traditional home areas and finding as best they could on the coastal areas and further afield.
- 3) There has been in the past a low level of economic activity and this is still very much the case in areas away from three major growth points.
- 4) Employment has been marked by a pattern of land tenure which gives rural people parcels of land not large enough to provide a living and there is therefore an acute shortage of full-time agricultural jobs, resulting in a large part of the rural population being involved in part-time or spare-time farming while supplementing their income by a motley array of other jobs, often working on road construction, running the transport services, fishing and informal sector jobs too - 'moon-lighting', the provision of bed and breakfast etc.
- 5) There are severe transport problems, there being large areas of wild country to be covered, and the road

network is limited. The Western Isles and the Orkney and Shetland Isles point up another problem familiar to island settlements, from Malta to Indonesia, that of sea transport and the high costs and physical problems involved in this.

- 6) Like the peripheral areas of many other countries there is a feeling on the part of the population of being alienated from, and out of touch with, central government and the administrative structure affecting most aspects of their lives. Nationalist sentiments have been strong in the last decade and embodied within them, alongside these, there have been manifestations of more narrowly focussed geographical loyalties, for example with Shetland. Calabria may be a parallel, West Irian and some Indian states certainly are. Pakistan with Bangladesh was.
- 7) There is a final parallel with some LDCs and that is the sudden, unexpected potential for growth provided by the discovery of oil. Nigeria, Indonesia and some of the Arab OPEC countries experienced a similar phenomenon, and with it the need to grapple with the demands and threats of conflicting interests, notably multinational companies.

These are some of the similarities. It would be a mistake, however, to presume from them too close a comparison, particularly in the case of less developed countries. There are some very basic differences:

- 1) The Highlands and Islands share fully in the British Welfare State, and this carries with it an assurance that the worst consequences of ill-health, natural disasters, inadequate productivity, loss of employment etc will be modified. Nobody need remain ill through a lack of the means to pay for medical help, preventive medicine is far advanced, financial help is available for the unemployed and those who have no adequate means of support. These are advantages unknown in the less developed countries.
- 2) Largely as a consequence of the Welfare State there is not in our region the absolute poverty found in many other under-developed parts of the world. This is a very real factor, and may well imply more than a difference only in degree - it is arguable that it induces an absolute difference in outlook. There is nevertheless a significantly higher level of unemployment - and a significantly lower level of net value

added *per capita* - in the Highlands and Islands when compared with the UK.

- 3) There is a long tradition of sound primary education, and a well-warranted pride in the educational norm achieved in the Highlands and Islands. It was one of the first areas in the whole of the UK to insist on, and implement, primary schooling for all children. Such a situation is far different from that of most LDCs, and the influence of mass literacy over many generations is highly significant.
- 4) Unlike the majority of the less developed world we do not have a population explosion problem, rather the reverse. While other countries struggle to contain their population numbers we congratulate ourselves on having stemmed the flow of out-migration from an already sparsely-populated area.
- 5) We do not share the acute urban problems experienced by many less developed countries and - to a lesser extent - by other parts of the European periphery. We are fortunate to have no parallel to Calcutta, to Rio de Janeiro, or even to Naples. In a very real sense we exported that problem from the Highlands along with our population - to Glasgow.

So much for the similarities and dissimilarities - I hope that what I have said will help you to put in perspective any lessons which our region may have to offer.

The Highlands and Islands Development Board is now twelve years old. It was set up with both a social and economic brief for development, and this harnessing of the two factors is crucial, and one to which I will return. First, however, it would be useful to look at agriculture in the Highlands of Scotland as it now is and as my Board would like to see it developing.

Agriculture is an important source of occupation and income in the Highlands and Islands, accounting for roughly ten per cent of the occupied population. In 'landward' areas, however, it employs one in six of the working population and on many islands and some mainland areas it plays a crucial role in local income generation and hence the maintenance of settlement patterns.

Over most of the region, agriculture displays features which contrast sharply with the rest of the UK. Firstly, the importance of rough grazings - dominated by heather



and poor pasture - and grassland, associated with climate, geology, and terrain, mean that agricultural activities are restricted over large areas to breeding and grazing livestock. Cattle and sheep in fact account for two-thirds of gross agricultural output. Secondly, the pattern of agricultural employment is still dominated by the farmer and his family, who provide roughly two-thirds of the total labour input in Highland Agriculture. Thirdly, we have a much higher proportion of part and spare time holdings than in Scotland as a whole ( and a *fortiori* than in the UK). Many of these small holdings are crofts, and the institution of crofting tenure (with a small area on individual tenure combined with a share in communal grazings) is of particular significance to the Western Isles, the North West Mainland and the Shetland Islands - the periphery of the periphery. Because of the small scale of many agricultural holdings, occupational pluralism is important; without alternative means of employment in such areas, neither the settlement patterns nor the agricultural production, which in large part depends on these patterns, would survive. A fourth point of difference, which follows from the extensive nature of much of agricultural production, is the wide geographical dispersion of production and hence settlements; this of course makes for difficulties in education, advice and training, and also in the availability of services and supplies, and in the marketing of produce. Finally, the dominance of large estates in the land ownership pattern is especially marked in the Highlands and Islands. A recent estimate suggested that some 35 families or companies, with holdings over 36,000 acres each, accounted for about one-third of all privately owned land in the Highlands and Islands.

Agriculture is also the most dominant form of land use in the region, although forestry is of growing importance, and game (principally red deer and grouse) is of greater significance than elsewhere in the UK. Some nine-tenths of gross output from all primary land uses in the region derives from agriculture.

Because of the significance of agriculture to our region, and its distinctive characteristics and problems, the HIDB has placed considerable emphasis on the development of a regional approach to agriculture and land use. The most concise statement of this regional approach to agriculture and land use is to be found in our recent publication entitled "Highland Agriculture and Land Use - Past Activities and Future Policies of the Highlands and Islands Development Board" (HIDB Occasional Bulletin 7, 1977).

Para 2.3 of this document sets out our general aims in the field of agriculture and land development as follows:-

- a) The overall objective of the Board in rural parts of its area should be to maintain and if possible increase the settled population by helping to provide job opportunities and incomes roughly comparable with other rural parts of the country.
- b) Contributing towards this objective should be the more productive use of the land resources of the Highlands and Islands by agriculture, forestry and other economic activities which should be developed in a planned and, as far as possible, complementary relationship to each other.
- c) Any land policy measure consistent with these aims should encourage an increase in output and in value-added. If such a condition is fulfilled then the tendency will be to maintain employment in the areas affected at a higher level than would have been likely without assistance. This may not necessarily mean a net addition to employment and in such circumstances there are obvious implications for the development of other (non-land-based) kinds of economic activity.
- d) The physical circumstances and past agricultural developments within the Highlands, together with present national farm policy, suggest that some policy measures should specifically relate to cattle and sheep rearing and should help producers to reach a higher level of output, efficiency and income. These measures can include grants and loans and can apply to individual farmers as well as to co-ordinated attempts to improve livestock breeding, fodder production and marketing. Such development measures will by definition exclude assistance which if withdrawn after a reasonable period would mean that producers are forced back on to their former lower level of economic performance; continuing subsidies may be justified in certain conditions, but should be the responsibility of national government rather than a regional development agency. The measures should be selective and adequately monitored and their effects should be assessed periodically by the Board.
- e) In order to exploit any limited comparative advantages which parts of the rural Highlands may hold and to ensure that opportunities offered by technical advances

elsewhere are adequately explored, development measures should cover not only established forms of land use but new and (initially) risky enterprises. Such projects will be of an experimental nature in the first instance, and will generally depend on technical expertise from outside the Board but should gradually take on the character of a commercial development, either in co-operation with outside concerns or on behalf of the development agency itself. "Ideal" projects will involve a labour-intensive use of land, yield products with a relatively high value to weight and manifest no pronounced economies of scale (above a certain fairly small size of business).

- f) The location and structure of present land-based enterprises in the Highlands suggest that a standardised approach in applying certain measures within the region as a whole would be inappropriate. Highland agriculture has at least two sectors and rigid application of one particular approach could inhibit desirable developments. A balance needs to be struck between meeting the administrative and political requirements of simplicity and equity and achieving a significant impact in the more difficult areas and where farming is likely to remain a part-time occupation. Various techniques can be used to provide such flexibility without going beyond defined limits of financial commitment. In addition special measures taken under national or EEC support schemes - such as the Less Favoured Areas Directive - could provide differential support for particularly difficult parts of the region.
- g) While a "Highland Plan" for the general development of all land-based activities in the region might become, in practice, little more than a statement of general objectives and production targets, at a more local level the concept of a comprehensive approach to such developments could have an operational effect. The existence of several public bodies with their own (sometimes narrowly defined) functions is bound to create problems of co-ordination; a regional body has to take an overall view and to seek ways of persuading other organisations to subordinate their special interests to wider objectives. There is thus a strong case for the co-ordination of the activities of these organisations to enable the implementation of comprehensive plans; such implementation will also require strong support from the local community.

- h) Central to any programme of regional agricultural development will be means for influencing the use of land. As a general rule the measures used are likely to be economic and financial rather than administrative, grants and loans rather than direct intervention. But exercising control over the use of land, which is already accepted when some changes in use are proposed, may well emerge as a precondition for the success of certain aspects of an agricultural development programme. A regional development authority like the Board should therefore have powers and finance to acquire land when this is essential to achieve approved objectives of agricultural and other forms of rural development. Preferably such acquisitions should be by voluntary agreement but if necessary, and in special circumstances, by compulsory acquisition. The legal basis for these acquisitions should be based on the conditions within which rural (as distinct from urban) developments normally take place.

These aims and objectives take into account our experience to date, our assessment of the needs and potential for land-based developments, and the broader context of regional, national and EEC policies, including the Board's determination to redress some of the regional imbalances which have emerged in the last decade. The aims and objectives have also formed the basis for the detailed elements of our strategy set out in subsequent sections of the publication. They must be seen alongside complementary objectives for the development of other sectors of the Highland economy over which the Board has some control - including fisheries, tourism and manufacturing activities.

I have said something of how we see the future of agriculture in our region. What sort of training currently exists for agriculture, and what sort do we need for the future I have been speaking of? How does the HADB contribute? We run a manpower advisory service for employers generally; in the agricultural context this involves liaison with the Agricultural Training Board, whose work I shall return to later in this paper.

More relevant to industries and professions other than agriculture, our Counterdrift system is designed to provide employers in the region with knowledge of skilled personnel from elsewhere seeking a move to the Highlands and Islands. At an earlier stage in a person's working life, we run schemes which enable senior school pupils

throughout the region to 'taste' something of the work they express interest in pursuing when they leave school.

\* \* \*

Without doubt, however, the majority of our work in education and training, particularly in relation to agriculture is done by way of co-operating and liaising with bodies already established for these purposes. Scotland is fortunate in providing excellent opportunities for agricultural training, and the Board encourages the use of these facilities. We ourselves use the agricultural research organisations and university departments: our experimental commercial deer farm is building on work done by two research organisations, and we have commissioned work from university departments of agriculture on such topics as part-time farming, milk supplies to the islands, and the use of distillery by-products, to name but a few.

One of the most favourable features of agricultural training in Scotland lies in the characteristics of our three Colleges of Agriculture. Their peculiar strength, not now found very often elsewhere, is that they combine research, teaching and advisory roles. Thus the College lecturer is kept in touch with current farming realities, the farmer has a better opportunity to be told of the most recent trends and innovations, and the student benefits from both these aspects.

Whilst higher education at the degree or diploma level is catered for by the Colleges of Agriculture, education at the craft level is through the county agricultural colleges, such as Clinterty in Aberdeenshire, sometimes in combination with technical colleges. The Agricultural Training Board plays an important part in craft training through its apprenticeship scheme, and also provides on-farm short-term training in such things as farm machinery maintenance and operation, sheep shearing, lambing and milking. The success of the ATB can be measured by the fact that 50 per cent of young people now in the farming industry complete a three year scheme of apprenticeship, and 25 per cent of the adults in employment attend at least one course a year (a fact which compares favourably with other industries). Perhaps significantly in terms of a theme to which I will shortly return, the Agricultural Training Board was originally set up

in 1967 as the Agricultural, Horticultural and Forestry Industry Training Board, but parted with the Forestry aspect two years later.

Were it not for the fact that such educational and training institutions have been relatively successful in coping with the needs of agriculture in Scotland, it is likely that training *per se* would be a very major task - and a major priority of the HIDB. As it is, we have been able - on the whole - to rely on existing institutions for education and training. There have been, and are important exceptions however to this generality, and important areas of training activity where we have used our influence - and in some cases finance - to help adapt and extend existing provision to meet the particular difficulties of people living in rural parts of the Highlands and Islands. Two examples of this are, first, the scheme jointly financed with the ATB to provide a mobile itinerant-type instructional service in the Highlands and Islands covering both employees and self-employed (including part-time farmers and crofters). This scheme has been in operation for eight years and is proving highly successful in meeting demand for on-farm and group instruction, at no cost to the trainee. Without such 'pump-priming', the level of training provision in a geographically dispersed area like the Highlands, with many part-time farmers and crofters and a low proportion of employed labour, would have been woefully inadequate. The second example is the Ancillary Employment Training Scheme which is wholly financed by the HIDB. This scheme was administered by the Crofters Commission prior to 1973 and was established to help crofters acquire the skills necessary to take up ancillary occupations. Under the scheme, practical advice and financial assistance have been made available to anyone within the Highlands and Islands to undergo short, intensive training courses in crafts and other appropriate skills. Some 157 grants have been offered under this scheme since October 1973, many of which have been to crofters and to men and women from crofting backgrounds. The range of instruction offered is of interest and can be seen in the Annex to this paper. This type of scheme is of great importance in a region where part and spare time farming are highly significant, traditional manufacturing enterprises being largely absent from rural areas, and the Board is actively encouraging those involved in part and spare time farming to make use of the scheme. Indeed if there is a criti-

cism to be made of existing educational and training provision in the rural areas of Scotland it is that it tends to be too narrowly *industry*-based - thus even forestry and agriculture are almost wholly separated both at the degree and craft levels, whilst the provision of training in industrial-type skills would tend to be available - if at all - only at remote centres. Because of the employee basis of many schemes, small part and spare time farmers would tend to be effectively excluded, whilst in practice distance often makes exclusion a fact for most in the absence of an active migration decision.

Training in fish farming cannot strictly be included in my subject; nonetheless I would like to mention briefly what the Highland Board is doing in this sphere for I feel sure it will be of interest to you. In response to the growth of fish farming in our area and the lack of courses specifically geared to providing trained recruits, my Board last year initiated a one-year training course, designed principally for school leavers wishing to acquire the craft skills needed for work in fish farming. In the second Annex to this paper detail of the course is given. The first course finished on 26 May but even before then almost all of the twelve trainees had been recruited, in most cases to fish farms in the Highlands and Islands. The demand for places on the next course is such that we expect to be able to recruit to course capacity exclusively from good applicants from our own area.

Against this background, let me turn to the broader issues. What role can a regional development body play, firstly, in development *per se*, and, secondly, in education and training for development?

Trying to define 'development' is an obvious need in considering these questions. Too often it is thought of only as growth, this approach being very much encouraged by an emphasis on the economic aspects of development. Here I am returning, as I said I would, to the fact that social as well as economic development is my Board's brief, laid upon it by statute. Even if we are thinking only of the economic side, however, growth is in itself insufficient. Attention must be given to the distribution of growth and its effects if a dualistic society is not to result. Planning powers and development policies must be dispersed to ensure that major economic growth, experienced e.g. in the Moray Firth

area (where oil and gas related activity looks very probable) has beneficial effects which are felt more widely throughout the region. We must try to avoid the experience of so many LDCs, where the riches of their capitals have accentuated the problems and poverty of their hinterlands.

Raising the standard of living, as expressed through economic statistics, is not the whole story either. Any acceptable definition of development in its full sense must embrace factors affecting the quality of life. Social aspects must be taken into account, and attempts made to arrive at a consensus on what constitutes 'quality' in life. Predictably, concepts such as freedom and justice would come into prominence and have to be weighed up. There would also, I suspect, be something about involvement of the individual in as great a part of his active, working day as possible.

There will always be a great temptation to over-emphasise the economic - the quantity - aspects of development at the cost of the social - the quality - ones because by their natures one is measurable, more easily handled and more directly controllable than the other, which is composed of less universally accepted elements and comparatively few statistically quantifiable concepts - the social is 'woolly' and nobody likes that. I contend, however, that development must be about both the economic and social aspects of living; these two must be inter-dependent and treated as such. Because of this bias towards the economic aspects of development, few politicians publicly question society's ability to expand material consumption, let alone the advisability of this process of cumulative acquisitiveness.

One of the tasks of a development body should be to achieve a balance between the economic and social aspects of development. There are, however, some hard realities to be faced when considering the ability of such a body to influence the direction of development:-

- 1) It is not the sole, and in many cases not even the major, instigator of policies.
- 2) It is not all-powerful, not even in its region, nor should it be. There must be a co-ordination and co-operation with local government, other government agencies, and other policy-influencing bodies, and this inevitably means a trading-off of plans and priorities. Even more-important, the development agency



must create the means and the skills to enable it to take the wishes of the people it exists to serve fully into account.

- 3) In broad terms, policies for development can be either reactive, in which case one is accepting the market as judge of opportunities, or interventionist, when one regards the market as an insufficient guide. The reactive ones are those influenced more by economic than social factors. The projects which make up reactive development are easier to handle for the development agency as usually, along with the proposal, comes the necessary management for it, and some private capital contribution towards the necessary investment.
- 4) To a large extent, the ground rules for development are laid down by those for whom it is politically desirable to adopt reactive policies. The development body, while being strongly influenced in its work by those reactive, highly economy-focussed policies, must steer a course which does not counter or defy these policies, yet has a broader focus, takes heed of development potential not necessarily reflected in the market, and is thus likely to require policies of an interventionist, long-term nature.

We cannot dismiss these hard realities, which can have the capacity to frustrate efforts to give due weight to the quality of life aspect of development. To achieve a balance between economic/quantitative and social/qualitative development, we need a greater emphasis on the social aspects of education and training than is the case at present.

How is balanced development to be furthered by education and training? A demarcation appears to exist in education akin to the quantity/quality problem in development itself. This demarcation is between equipping the individual with particular skills to meet specific needs (in other words attempting to equip him to be able to react adequately to a given situation, the success of which can be quantified) and giving him/her a wider education geared to enabling the individual to respond to situations as they arise, having a perspicacity and foresight to see what is needed (with similarities to the qualitative and interventionist aspects of development policy). The person with the second type of education should be better able to influence his own position within changing circumstances. Such education might well

be modelled on the principles of A N Whitehead, who believed that those pre-eminent in a subject could perceive its essential core and that this could then be taught in a short space of time. All subsequent learning in that subject, no matter how advanced, never distanced itself from the core - rather than a 'path' of learning he envisaged a spiral staircase, the well of the stair being the core of the subject. One of the implications of this is that a person can be given a grasp of the core of subjects in a way which will enable him to develop those he subsequently finds to be of value as and when they are needed. For ease of reference I would call these two educational prescriptions pre-determined and self-determining.

In fact, drawing parallels between the approaches to education in terms of pre and self determination and those to development in terms of quantitative and qualitative aspects is less legitimate if one looks rather more closely. The economic, quantitative, aspect of development should be subsumed under the overall aims of qualitative development. In contrast, the two philosophies of education are to a large extent mutually exclusive.

In general terms it seems that there has not been enough discussion of social, rather than economic, factors in all aspects of education. Again, the explanation may well be that what is quantifiable is more easily handled, but the result of this is an atrophying of social considerations and a consequent distortion of overall aims. In training and education for agriculture specifically, this emphasis on the immediate need is seen in the way in which particular skills and techniques are often imparted to the exclusion of wider perspectives. The danger is then that the wood cannot be seen for the trees. If one looks through the Prospectus for Agriculture Courses at Aberdeen University no mention is made of agriculture as it relates to other British industry, or the extent and importance of agriculture as the provider of raw materials for a rapidly growing and diversifying food processing industry, or the consideration and comparison of alternative demands on rural land. Some of the Diploma courses do, in their agricultural economics, treat comparative agricultural methods in other countries. However, the general conclusion remains that those being educated for agriculture and agri-based works will be given an excellent grasp of the techniques and technology of present-day British agriculture, but there is apparently scant provision for putting this in the wider national - let alone European

or World-context, or discussing the advantages and disadvantages, in terms wider than pure economics, of contrasting agricultural methods; Nor, at a more practical level, are there any significant schemes for exchanges of farmers - young or old - between different countries such as those in the EEC. This does seem to be a gap, especially among nations seeking common policies and approaches to agricultural problems.

To look at another aspect of agricultural education: how much is offered to students at any age or stage of education, whose speciality is not agriculture, about agriculture? If an indictment is to be laid at the door of those responsible for agricultural education and training, then something has to be said too of the general public's lamentable ignorance of agriculture in any of its aspects. Today's reality is that the majority of our nation lives in an urban context, far removed from an opportunity to absorb at first hand, as they go about their daily tasks, the annual farming cycle. There is a woeful lack of association between what stocks the supermarket shelves and what happens beyond the urban area. Urban dwellers must be equipped with some appreciation of agriculture and its role in their lives, and if this cannot happen outwith the formal education system then it must happen within it. Those lobbying Parliament with conservation aims, with new motorway programmes, with wishes to extend the urban boundaries, must represent people with some grasp of the effect of their policies on agriculture and the way in which this would work through the system beyond the farm gate. With more enlightenment and appreciation of the other viewpoint on *both* sides of the argument, rural and urban, we can be more hopeful of a sensible consensus emerging.

In European agriculture things have evolved rapidly in recent years, and this is likely to continue. Changes will take place which will again alter the balance between labour, machinery, fertilisers etc. With emphasis being laid on the need to produce food even from marginal land, policies for these areas are being rethought and inevitably smaller profit margins will have to be off-set by government intervention if these areas are to attract farmers and others who would work the land. In the Scottish Highlands there will have to be allowance made not only for production from marginal land but also for the large number of part and spare time farmers in the region. Because of the low productivity of many units, full time employment will never be

possible on them. Policies must recognise this and treat the part-time farmer as a justified reality. In such circumstances there seems an even more persuasive case for education and training to be geared to the self-determining role. People working marginal lands will have to be prepared to turn their hand to a wide variety of skills, have acumen, see an opportunity when it presents itself, and then have the initiative to set about realising it. Being equipped with packages of established abilities and skills, excellently organised to derive the maximum benefit from circumstances in the '70s, will be of diminishing value, and long before the 1978 entrant to the farming industry starts to think of his retirement he will require to make adjustments for which his education and training will not have prepared him.

We should also be aware of the effects which changes outwith agriculture could have on the industry: if unemployment in the manufacturing industries does not decrease, and if conservation interests become more powerful, then there will be pressure to re-think the approach to farming which leads to an ever-increasing use of machinery and chemicals and to a decline of employment in agriculture.

May I make brief reference to our recent encouragement to local communities in the Highlands and Islands to launch multi-functional co-operative enterprises, a scheme firmly founded on the virtues of self-determination. The concept is already in operation in the west of Ireland - in that communities own and run a number of small enterprises providing employment and sometimes services which would otherwise not be established in these locations. On an experimental basis, to test the viability of this approach, we have located two field officers in the Western Isles whose job it is to explain the possibilities of such co-operatives, outline the financial and other help which the Highland Board could provide, and assist communities to think through and present to us the particular projects with which they would propose to launch their co-operative.

The response has been very encouraging, indeed the problem may be to damp down over-enthusiasm. Seven committees are now at work screening proposals for businesses and raising funds. One is close to the point where a manager will be employed and investment take place. The impact on community morale and the creation

of greater confidence has been marked and an appreciation of the importance of self-help appears to be growing.

One other area in which our approach is designed to trigger-off community involvement is in our approach to land use and the procedure we are proposing to correct mis-use and under-use where these lose employment opportunities which are so vital to fragile communities. The case for improved land use has to be developed by community representatives and secure the endorsement of a technical panel of land-use experts. The development plan which emerges will be discussed at a public meeting at local level.

These two examples reflect my own firm belief that small, fragile communities will be more likely to achieve and hold development when they play a part in the development process. The benefits of them so doing include developments more in tune with community need and perceptions, but even more important a learning process which improves the capabilities of the community to protect and advance its interests in the future.

What are the implications of what I have been saying for a regional development board? Balance and co-ordination are the key words: we have an ability to initiate and we have an ability to influence existing practices. We are in a position to be less dictated to by immediate short-term gains than are the majority of policy-makers, though little would be gained by long-term policies which are blind to the realities of the present. Influencing contemporary education offers the best hope of a future in which the Highland population can exercise an initiating and self-determining role.

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## ANNEX I

COURSES ATTENDED UNDER THE HIDB'S ANCILLARY EMPLOYMENT  
TRAINING SCHEME BETWEEN 1 OCTOBER 1973 and 31 MARCH 1978

APPLICANT FROM	COURSE ASSISTED
Orkney	Artificial insemination
Mull	Woodturning
Golspie	Wrought iron
Harris	Leatherwork
Various parts of the Highlands and Islands	Sheepskin curing (Demonstration by D H Tuck, Vice-Principal of National Leathersellers College, London)
S. Uist	Lapidary
Skye	Market gardening
Ardgay	Horticulture
Barra	Weaving
Dornoch	Pottery
Unst	Weaving
Harris	Evening classes in sealskin work
Colonsay	Hairdressing
Spean Bridge	HGV instruction
Kingussie	Woodturning
Skye	Art, Painting
Alness	Pottery
Orkney	Underwater welding
Tarbert, Argyll	Lapidary
Connel	Leatherwork
Orkney	Knitwear
Tarbert, Argyll	Weaving
Thurso	Woodturning
Harris	Business management
Mull	Handloom weaving
Rhum	Handloom weaving
Rogart	Wrought ironwork
Dingwall	Spinning and weaving
Rosemarkie	Spinning and weaving
Stornoway	Sheepskin curing
Rogart	Woodturning
Harris	Leatherwork
Inverness	Spinning and weaving
Skye	Lapidary
Beaully	Upholstery and restoration of antique furniture
Fair Isle	Rug weaving
Unst	Sheepskin curing

Wick	Woodturning
Poolewe	Woodturning
Cairndow	Crookmaking
Kilmun	Upholstery
Inverness	Leatherwork
Ullapool	Leatherwork
Stronsay	Woodturning
Skye	Book-keeping
Sanday	Machine knitting
Oban	Pottery
Castletown	Crochet finishing
Beaully	Jewellery/Silversmithing
Rothsay	Knitwear finishing
Tain	Weaving
Bute	Photo-lithography
Brodick	Maintenance of Hattersley looms
Grantown	Floral art
Rousay	Fish processing
Skye	Copper plate etching
Unst	Leatherwork
Gairloch	Woodturning
Inverness	Embroidery collage
North Ronaldsay	Spinning
Kilmelford	Weaving
Arran	Silk screen printing
Golspie	Spinning
Kildary	Weaving
Islay	Rug weaving
Muck	Woodturning
Strontian	Woodturning
Eigg	Woodturning
Islay	Pottery
Fair Isle	Weaving
Acharacle	Hairdressing
Raasay	Charcoal production
Raasay	Power chain saw milling



## ANNEX II

FISH FARMING COURSE initiated and financed by the Highlands and Islands Development Board and run by them in conjunction with the Inverness Technical College.

The considerable recent growth of fish farming throughout the Board's area, which is manifest by a diversity of units producing salmon, rainbow trout, marine fish and a variety of shellfish, has led the Board to develop and finance a trainee course for those who would like to enter this industry with a basic knowledge of the craft skills required.

A one-year training course commenced in August 1977, and the design of this course was based upon experiences gained from a trial course with three carefully selected trainees, which commenced in January 1977, and through close contact and discussion with the fish farming industry.

Three blocks of four weeks each are spent at Inverness Technical College, and up to a total of thirty weeks of practical training are provided by working at the HIDB Hatchery near Inverness and a large variety of fish and shellfish farms in the Board's area. In addition, short courses are provided by the University of Stirling (Fish Disease), Scottish Marine Biological Association, Dunstaffnage, Oban (related marine activities) and the White Fish Authority (marine fish cultivation).

While attending the course, trainees are paid a training and food allowance aligned to current Government training rates.

#### Course Content

The main aims of this training course are to provide knowledge and understanding of techniques and materials which a craftsman will need to employ on the fish farm, in order to carry out his duties effectively and intelligently. The course also provides a broad basis of relevant science and technology so that the craftsman develops an appreciation of the many aspects of his job and that of others working in this field.

During their phases at Inverness Technical College, trainees will be introduced to the related aspects of

biology and chemistry. Those subjects covered include: introduction of biology; classification of living things; biology of fish, crustaceans and molluscs; review of fish farming; water chemistry; embryology and spawning; culture facilities; feeding and nutrition; measurement of growth and numbers; fish processing and technology.

The trainee will also be given instruction on safe electrical practices associated with farm installations, and be introduced to the theories of hydraulics and its application to water handling and pumping. Electrical: generation, transmission and distribution of electricity; 3-phase 4-wire supply system; wiring regulations; miniature circuit breakers; earthing; circuit breakers; basic lighting circuits; basic power circuits; transformers; relays; bell and relay circuits; electric motors; Hydraulics: properties of a fluid; pressure; lift pumps; diaphragm pumps, force pumps and the syphon; energy equation; head, flow friction; orifices; venturies, vortices, etc; hydraulic machines; pumps and pipes.

In addition, to encourage maximum versatility, basic engineering fitting, welding and fibre glass handling will be essential elements of the course and foundations of basic skills in brick work and plumbing will also be developed. Engineering: fitting, handtools, machining; welding and metal joining; safety; internal combustion engines including diesel, marine gear boxes and 2-stroke outboard engines. Brickwork: interpreting site drawings and details; setting out and levelling; protecting work in all stages of construction; establishment of working areas and storage of materials; concreting; brick or block laying. Plumbing: introduction to materials; demonstration of materials and jointing methods; workshop practicals including bending, jointing, heating and compression fittings.

The comprehensive nature of the course is further expanded through related studies which include arithmetic, elementary statistics, graphics, record keeping and report writing.

The Disease course at the University of Stirling will occupy one week of an intensive nature, and is conducted at the Unit of Aquatic Pathobiology where lectures, demonstrations and practical laboratory instruction will be provided on the following subjects: normal fish morphology; husbandry aspects of disease; bacterial,

viral, parasitic and fungal diseases; fish kills; nutritional diseases; prevention and treatment of disease.

The one week course at the Scottish Marine Biological Association will be primarily related to fish farming activity in the marine environment: hydrography and meteorology; site selection; cage design, construction and maintenance; moorings, oxygen budget; seamanship.

The White Fish Authority will be providing staff to lecture to trainees on fish farming, particularly nursery and sea cage cultivation of turbot, tank cultivation of turbot and dover sole; and nutrition. Visits to WFA units at Ardtoe, Argyll and Hunterston Generating Station will back up the lectures.

Throughout the course there will be visits arranged to different types of fish farms, waterworks, research laboratories and fish processing plants.

Finally, there will be substantial periods of related industrial experience, with each trainee working at up to five different fish farms. This will be an opportunity to learn basic skills of the fish and shellfish farming industry, such as spawning, grading, feeding, harvesting, etc, and to apply newly-learned techniques. It also provides an opportunity to meet and work with people already established in fish and shellfish farming in various parts of the Highlands and Islands.

THE ARKLETON TRUST uses its resources for the study of new approaches to rural development with emphasis on education and training. It aims to promote dialogue between politicians, administrators and practitioners at all levels on the problems of Europe and the Third World. The Trust's activities include the holding of high level seminars on specialised subjects of immediate relevance to Europe and/or the Third World and the collection and collation of relevant experience for its publications programme. The Trust is not a grant making body and it supplements its limited resources in collaboration with other bodies which share its objectives. It is recognised as a charity by the United Kingdom Charity Commissioners.

THE HIGHLANDS AND ISLANDS DEVELOPMENT BOARD was set up by Act of Parliament in 1965. Responsible to the Secretary of State for Scotland, it has two main functions: to assist the people of the Highlands and Islands to improve their economic and social conditions; and to enable the Highlands and Islands to play a more effective part in the economic and social development of the nation. The Board is financed by Central Government and has a wide range of powers, including the ability to acquire land, build factories, set up businesses and undertake research. The Board runs its own grants and loans scheme to give financial assistance to any activity which, in its opinion, will contribute to the economic and social development of the Highlands and Islands.